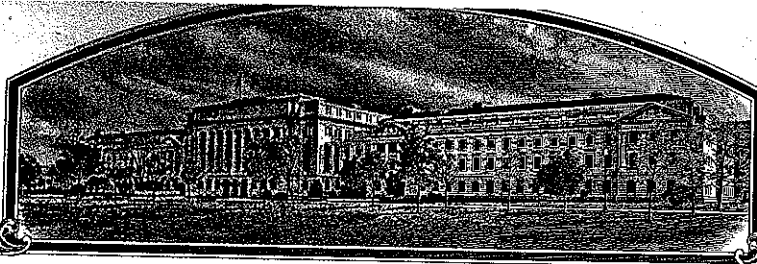


No.

200600270



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Busch Agricultural Resources, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'Merit 16'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of June, in the year two thousand and seven.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

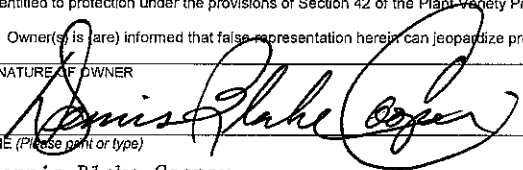
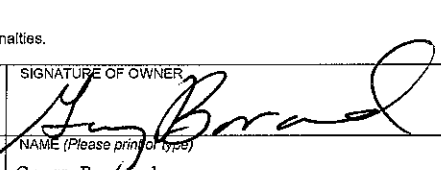
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER BUSCH AGRICULTURAL RESOURCES, INC.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 2B99-2316	3. VARIETY NAME 'Merit 16' MAH 6/13/07
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 3515 Richards Lake Road Fort Collins, Colorado, 80524 USA		5. TELEPHONE (include area code) (970)-221-5622	FOR OFFICIAL USE ONLY PVPO NUMBER 200600270 FILING DATE August 17, 2006
		6. FAX (include area code) (970)-472-2334	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation	8. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware	9. DATE OF INCORPORATION 01-01-81	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Dr. Blake Cooper or Gary Bovard Busch Agricultural Resources, Inc. 3515 Richards Lake Road Fort Collins, Colorado, 80524 USA			FILING AND EXAMINATION FEES: \$ 4382 DATE 8/17/2006 CERTIFICATION FEE: \$ 768.00 DATE 1-30-2007
11. TELEPHONE (include area code) (970)-221-5622	12. FAX (include area code) (970)-472-2334	13. E-MAIL blake.cooper@anheuser-busch.com	
14. CROP KIND (Common Name) Spring Barley	16. FAMILY NAME (Botanical) Graminea	18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP HORDEUM VULGARE L.	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23) 21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER  NAME (Please print or type) Dennis Blake Cooper		SIGNATURE OF OWNER  NAME (Please print or type) Gary Bovard	
CAPACITY OR TITLE Senior Manager, Barley Research	DATE Aug 8, 2006	CAPACITY OR TITLE Senior Director Technical Operations	DATE 8/17/06

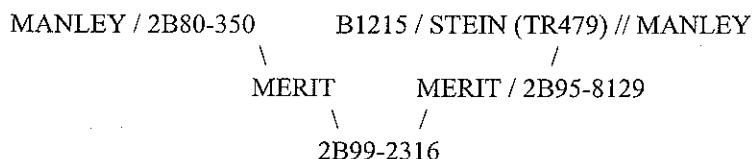
(See reverse for instructions and information collection burden statement)

EXHIBIT A

200600270

ORIGIN AND BREEDING HISTORY OF 2B99-2316 'Merit 16'MAH
6/13/07**PEDIGREE:** Merit 2* / 2B85-8129**Date of Cross:** 1996**HISTORY:**

The line 2B99-2316 was derived from the backcross (C96-4054) made in spring of 1996 in Ft. Collins, CO between Merit as female and the F₁ (C96-4011) used as male. The recurrent female parent (Merit) is a released BARI cultivar with a pedigree of Manley / 2B80-350. The male parent (C96-4011) is an F₁ hybrid with a pedigree of Merit / 2B95-8129. The parent 2B95-8129 is an experimental line from the BARI breeding program with the pedigree B1215 / Stein (TR479) // Manley. Stein is a line from the CDC of Saskatchewan that has Nairn in its extended pedigree. The extended pedigree of 2B99-2316 is shown below.



The BC₁F₁ generation was grown in the winter of 1996/97 in the greenhouse as a planted population of ~200 seeds. The BC₁F₂ generation was grown in Irricana, Alberta, Canada in 1997. Heads of selected plants were harvested and bulked based on the following criteria: Straw strength, Maturity, and general foliar disease resistance. The F₃ generation was grown in the Ft. Collins greenhouse by single seed descent (~196 planted seed) during the fall / winter of 1997/98. In the spring of 1998 there were 174 F₄ rows grown in Brooks, Alberta, Canada, of which twenty-seven (27) rows were selected on visual appearance, and NIR whole grain scores for protein, predicted extract, etc. The line was initially derived as a single F₅ observation row (NZ0787) in a counter-season increase in Christchurch, NZ during the winter of 1998/99. This row was assigned the mother-line designation 2B99-2316 and was first entered into yield trials in 1999 as an F_{5:6} and subsequently tested at multiple locations in the U.S and Canada from 1999-2005.

From the first year of yield testing through the release of the variety, continual assessments of numerous agronomic and malting traits are carried out. These traits are assessed on samples grown at several locations per year and statistically compared to the most widely grown commercial varieties, plus selected advanced experimental lines. The varieties Harrington, B1202, and Merit were used throughout the testing program. 2B99-2316 was entered in the Western Spring Barley Nursery in 2003. 2B99-2316 was tested at the pilot scale level in 2004 and will be tested again in 2005 by the American Malting Association. It is targeted as a two-rowed malting barley for the Intermountain states of Idaho, Montana and Wyoming. The following criteria are assessed at each stage of yield trial testing:

Agronomic traits:

Yield
Straw strength (lodging)
Height
Maturity
Test weight
Resistance to scald
Resistance to net blotch
Resistance to spot blotch

Malting traits:

Kernel plumpness
Extract Level
Total protein
Soluble protein
Alpha amylase
Diastatic power
S/T Ratio
Turbidity

Our most important agronomic traits are yield, straw strength and disease resistance. Our most important malting traits are extract level, protein and enzyme levels (alpha amylase and diastatic power).

200600270

In 2001 head selections were made at Fort Collins, Colorado from a uniform and stable F_9 population to initiate purification and multiplication. 80 Headrows were grown in Ft Collins 2002. Sixty-seven of the 80 headrows were selected, uniform and true to type, and were bulked and grown in Ft Collins in 2003 as a 0.1 acre pre-breeder seed increase. Seed produced from this increase was used to produce Breeder Seed in Ft Collins in 2004. ~~2B99-2316~~ has been uniform and stable from F_9 through F_{12} . Less than 0.05% of the plants were rogued from fields in 2001. Approximately 95% of the rogued plants were 2 to 4 centimeters taller than 2B99-2316. Less than 0.05% total variant plants may be encountered in subsequent generations. Certified seed will be available in 2008.

Ment 16

MAH
6/13/07

200600270

EXHIBIT B

STATEMENT OF DISTINCTNESS

'Merit 16'

2B99-2316 is most similar to the spring barley variety "Merit", however it can be distinguished by the following morphological characteristics:

- MAH
6/13/07
- 2B99-2316 has a bowl shaped collar.
Merit has a saucer shaped collar.
 - 2B99-2316 has no shoulder hairs on the rachis.
Merit has shoulder hairs.
 - 2B99-2316 has a flat and pyramidal shaped rachilla
Merit has a cylinder shaped rachilla.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
Barley (*Hordeum vulgare* L.)

NAME OF APPLICANT (S) BUSCH AGRICULTURAL RESOURCES, INC.	TEMPORARY OR EXPERIMENTAL DESIGNATION 2B99-2316	VARIETY NAME 'Merit 16' MAH
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) 3515 Ricards Lake Road Fort Collins, Colorado 80524 USA		FOR OFFICIAL USE ONLY 6/13/07 PVPO NUMBER 200600270

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (i.e. or) when the number is either 99 or less or 9 or less.

1. GROWTH HABIT:

1 = Spring 2 = Facultative Winter 3 = Winter Early Growth: 1 = Prostrate 2 = Semi-Prostrate 3 = Erect

2. MATURITY: (50% Flowering)

1 = Early (California Mariout) 2 = Mid-Season (Betzes) 3 = Late (Frontier)
 No. Days Earlier Than Merit *
 Same as Check _____ *
 No. of Days Later Than _____ *

3. PLANT: (From Soil Level to Top of Head)

1 = Semi-Dwarf 2 = Short (California Mariout) 3 = Medium Tall (Betzes) 4 = Tall (Conquest)
 cm Shorter Than Merit *
 Same as Check _____ *
 cm Taller Than _____ *

4. STEM:

Exsertion (Flag to Spike at Maturity): 1 = (0 - 3 cm) 2 = (3 - 10 cm) 3 = (10 - 15 cm)
 Anthocyanin: 1 = Absent 2 = Present
 No. of Nodes (Originating from Node Above Ground)
 Collar Shape: 1 = Closed 2 = V-Shaped 3 = Open 4 = Modified Closed or Open
 Shape of Neck: 1 = Straight 2 = Snaky 3 = Other (Specify) _____

* A commercial variety grown in the same trial.

5. LEAF:

200000270

- 1 Basal Leaf Sheath (Seedling): 1 = Glabrous 2 = Pubescent
- 2 Position of Flag Leaf (At Boot Stage): 1 = Drooping 2 = Upright
- 2 Waxiness: 1 = Absent (Glossy) 2 = Slightly Waxy 3 = Waxy
- 1 0 mm Width (First Leaf Below Flag Leaf)
- 1 0 cm Length (First Leaf Below Flag Leaf)
- 1 Anthocyanin in Leaf Sheath: 1 = Absent 2 = Present

6. HEAD:

- 1 Type: 1 = Two-Rowed 2 = Six-Rowed
- 4 Density: 1 = Lax 2 = Erect (Not Dense) 3 = Erect (Dense) 4 = Other (Specify) Mid-dense
- 4 Shape: 1 = Tapering 2 = Strap 3 = Clavate 4 = Other (Specify) Parallel
- 2 Waxiness 1 = Absent (Glossy) 2 = Slightly Waxy 3 = Waxy
- 1 Lateral Kernels Overlap: 1 = None 2 = At Tip 3 = 1/4 – 1/2 of Head
- 3 Rachis (Hair on Edge): 1 = Lacking 2 = Few 3 = Covered

7. GLUME:

- 2 Length: 1 = 1/3 of Lemma 2 = 1/2 of Lemma 3 = More than 1/2 of Lemma
- 3 Hairs: 1 = None 2 = Short 3 = Long
- 3 Hair Covering: 1 = None 2 = Restricted to Middle 3 = Confined to Band 4 = Completely Covered
- 2 Awns: 1 = Less than Equal to Length of Glumes 2 = Equal to Length of Glumes 3 = More than Equal to Length of Glumes
- 3 Awn Surface: 1 = Smooth 2 = Semi-Smooth 3 = Rough

8. LEMMA:

- 5 Awn: 1 = Awnless
2 = Awnlets on Central Rows, Awnless on Lateral Rows
3 = Short on Central Rows, Awnlets on Lateral Rows
4 = Short (Less than Equal to Length of Spike)
5 = Long (Longer than Spike)
6 = Hooded
- 4 Awn Surface: 1 = Awnless 2 = Smooth 3 = Semi-Smooth 4 = Rough
- 2 Teeth: 1 = Absent 2 = Few 3 = Numerous
- 1 Hair: 1 = Absent 2 = Present
- 1 Shape of Base: 1 = Depression 2 = Slight Crease 3 = Transverse Crease
- 2 Raachilla Hairs: 1 = Short 2 = Long

9. STIGMA:

- 2 Hairs: 1 = Few 2 = Many

10. SEED:

200600270

<input type="text" value="2"/>	Type:	1 = Naked	2 = Covered
<input type="text" value="1"/>	Hairs on Ventral Furrow:	1 = Absent	2 = Present
<input type="text" value="4"/>	Length:	1 = Short (8.0 mm) 2 = Short to Mid-Long (7.5 – 9.0 mm) 3 = Mid-Long (8.5 – 9.5 mm) 4 = Mid-Long to Long (9.0 – 10.5 mm) 5 = Long (10.0 mm)	
<input type="text" value="2"/>	Wrinkling of Hull:	1 = Naked	2 = Slightly Wrinkled 3 = Semi-Wrinkled 4 = Wrinkled
<input type="text" value="1"/>	Aleurone Color:	1 = Colorless (White or Yellow)	2 = Blue
<input type="text" value="0"/> <input type="text" value="0"/>	Percent Abortive	<input type="text" value=""/> <input type="text" value=""/>	GMS. per 1000 Seeds

11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Intermediate, 4 = Tolerant)

<input type="text" value="1"/>	Septoria	<input type="text" value="3"/>	Net Blotch	<input type="text" value="1"/>	Spot Blotch	<input type="text" value="2"/>	Powdery Mildew
<input type="text" value="1"/>	Loose Smut	<input type="text" value="0"/>	Bacterial Blight	<input type="text" value="2"/>	Covered Smut	<input type="text" value="2"/>	False Loose Smut
<input type="text" value="2"/>	Stem Rust MCC	<input type="text" value="3"/>	Leaf Rust	<input type="text" value="3"/>	Scab	<input type="text" value="3"/>	Scald
<input type="text" value="0"/>	Aster Yellows Virus	<input type="text" value="0"/>	BSMV	<input type="text" value="0"/>	BYDV	<input type="text" value="1"/>	Other (Specify) <u>Barley strip rust</u>

12. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Intermediate, 4 = Tolerant)

<input type="text" value="0"/>	Green Bug	<input type="text" value="0"/>	English Grain Aphid	<input type="text" value="0"/>	Chinch Bug	<input type="text" value="0"/>	Armyworm
<input type="text" value="0"/>	Grasshoppers	<input type="text" value="0"/>	Cereal Leaf Beetle	<input type="text" value="0"/>	Other (Specify) _____		
Hessian Fly Races {		<input type="text" value="0"/>	GP	<input type="text" value="0"/>	A	<input type="text" value="0"/>	B
		<input type="text" value="0"/>	D	<input type="text" value="0"/>	E	<input type="text" value="0"/>	F
		<input type="text" value="0"/>	C	<input type="text" value="0"/> Other (Specify) _____			

13. CHEMICAL: (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Intermediate, 4 = Tolerant)

<input type="text" value="0"/>	DDT	<input type="text" value="0"/>	Other (Specify) _____
--------------------------------	-----	--------------------------------	-----------------------

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Tillering	MERIT	Seed Size	MERIT
Leaf Size	MERIT	Coleoptile Elongation	MERIT
Leaf Color	MERIT	Seedling Pigmentation	MERIT
Leaf Carriage	MERIT		

REFERENCES:

The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

- Wiebe, G.A., and D.A. Reid, 1961, Classifications of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Department of Agriculture.
- Reid, D.A., and G.A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Department of Agriculture, pp. 61-84.
- Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

EXHIBIT D

200800270

BOTANICAL DESCRIPTION OF 2B99-2316 'Merit 16'

2B99-2316 is a two-rowed, medium, early season spring barley bred and developed by Busch Agricultural Resources, Incorporated, Ft. Collins, Colorado. It has excellent malting quality.

MAH
6/13/07

Juvenile growth habit is erect. Plant color at boot is green with an upright flag leaf. Head shape is parallel and mid-dense in density with a slightly nodding head type. Neck is straight with a bowl shaped collar. First rachis segment is slightly bent back and is mid-sized. Base of the first segment is a margin flange with hairs on the margin. Rachis shape is plain with hairs covering the margin edge. Glume length is one half the length of the kernel and glume hair is long and confined to a band. The glume awns are rough and equal to the length of the glume. Lemma awns are rough, longer than the spike and persistent. Lemma teeth are few. Lemma hair is absent and the base is a depression. Lateral floret formation is divergent with rounded lemma tips. Seed is covered, mid-long to long, finely wrinkled with a slight wax present. The aleurone is colorless. Palea tips are mid-sized. Rachilla length is one-fourth the length of the kernel with long hairs that get shorter at the tip. Ventral crease is open and lacks crease hairs and fence hairs.

2B99-2316 is an intermountain two-rowed variety well adapted to Montana, Idaho and Wyoming.

AGRONOMIC CHARACTERISTICS:

Yield Trials (1999-2005)*

Variety	Grain Yield (Bu/ac)	Days to Heading (Julian days)	Relative Maturity (1-9) §	Plant Height (cm)	Lodging (1-9)†	Net Blotch (1-9)‡	Scald (1-9)‡
Station years	49	50	14	57	33	17	20
2B99-2316	115.9	174.7	4.1	83.3	3.4	4.5	3.9
Merit	116.1	176.7	5.9	88.3	2.7	1.9	5.0
t-Test	0.91876(ns)	<.0001	<.0001	<.0001	0.05887	0.000488	0.00494

§ Relative Maturity 1= early and 9 = late

† Lodging of 1 = no lodging and 9 = severe lodging.

‡ Foliar Diseases 1= no disease and 9 = severe disease.

MALTING QUALITY CHARACTERISTICS:

Quality Tests (1999-2005)*

Entry	Barley Protein (%)	Malt Protein (%)	Plump Kernels (%)	Fine Extract (%)	Wort Protein (%)	S/T (%)	F-C Diff. (%)	B Glucan ppm	Diasatic Power (°L)	Alpha-Amylase (20° DU)
Station years	34	34	56	29	31	31	16	29	31	31
2B99-2316	11.6	11.5	84.2	81.8	5.2	46.2	1.2	149.0	145.9	68.7
Merit	11.7	11.6	83.8	81.1	5.3	46.7	1.0	160.9	150.6	71.7
t-Test	0.4035 (ns)	0.7477 (ns)	0.6954 (ns)	<.0001	0.2673 (ns)	0.5189 (ns)	0.0381	0.2886 (ns)	0.1432 (ns)	0.0083

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) BUSCH AGRICULTURAL RESOURCES, INC.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 2B99-2316	3. VARIETY NAME 'Merit 16' MAH
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 3515 Richards Lake Road Fort Collins, Colorado, 80524 USA	5. TELEPHONE (Include area code) (970) 221-5622	6. FAX (Include area code) (970) 472-2334
7. PVPO NUMBER 200600270		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.



YES



NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.



YES



NO

10. Is the applicant the original owner?



YES



NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?



YES



NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?



YES



NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

EXHIBIT E.

200600270

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

Busch Agricultural Resources, Incorporated is applicant for protection in this case being:

a.) The incorporated business registered in Delaware for and within regular employees have bred ~~2B99-~~
2316. 'Merit 16' MAH 6/13/07

b.) The proprietary owner and intending commercial seller of 2B99-2316.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S) Busch Agricultural Resources, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 3515 Richards Lake Road Fort Collins, Colorado 80524 USA	TEMPORARY OR EXPERIMENTAL DESIGNATION 2B99-2316
NAME OF OWNER REPRESENTATIVE (S) Dr. Blake Cooper or Gary Bovard	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 3515 Richards Lake Road Fort Collins, Colorado 80524 USA	VARIETY NAME 'Merit 16' MAH FOR OFFICIAL USE ONLY 6/13/07 PVPO NUMBER 200600270

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.


Signature

8/17/06
Date